

Indoor Lighting Measures

February 4, 2003 Workshop



Summary of Indoor Lighting Measures

- Common lighting systems as new compliance option.
- Modifications to whole area and complete building lighting power allowances.
- Simplified tailored method.
- Requirement for daylighting skylight area for large spaces.
- Acceptance requirements for lighting controls.



Common Lighting Systems

- Compliance option added that does not require calculation of allowed lighting power.
- Pre-determined to achieve a lighting power density less than 1.0 W/ft².
- Specifies types, lamp watts, and spacing for common luminaires.

No changes since the November 2002 draft.

- Suggestion to move this to the conservation manual or the ACM manual since this is more a compliance method than an alternate method.



Lighting Power Allowances – Complete Building and Area Category Methods

- Proponent: CEC
 - Workshop: April 23
 - Standard: NR Lighting
- Complete building and area tables include a few new building types and area categories.
 - Many allowed LPDs have been revised based on new lighting models.

Changes since the November 2002 draft:

- ACM Tables N2-1 thru N2-3 updated to reflect new building types.
- New category established for “Tenant Lease Space” to cover speculative buildings where tenant is not identified at the time of building permit application.

Simplified Tailored Method

- Proponent: CEC
 - Workshop: July 18
 - Standard: NR Lighting
- The tailored lighting method has been simplified through revisions to §146(c)3.
 - Use-it-or-lose-it allowances keyed to specific spaces.
 - Reduces allowed lighting power compared to current Standards.

Changes since the November 2002 draft:

- Display allowance changes, such as to Civic facilities, museums, hotels, etc.
- Ornamental allowances more detailed.
- Revised use-it-or-lose it allowances for wall display, general display, ornamental/special effects, very valuable merchandise.



Bi-Level Lighting Control Credits

- Proponent: Pacific Gas & Electric
- Workshop: July 18
- Standard: NR Lighting

● Applies to:

- Hallways of hotels/motels.
- Commercial and industrial storage stack areas (max. 2 aisles per sensor).
- Library stacks (maximum 2 aisles per sensor).

● See Table 146-B.

No changes since the November 2002 draft.



Daylighting of Large Spaces Under Roof

- Proponent: Pacific Gas & Electric
 - Workshop: May 30
 - Standard: NR Lighting
- Prescriptive requirements for diffusing skylights in some large, low-rise enclosed spaces.

No changes since the November 2002 draft.



Lighting Controls Under Skylights

- Proponent: Pacific Gas & Electric
- Workshop: May 30
- Standard: NR Lighting

Changes since the November 2002 draft:

- Reorganized mandatory requirements for automatic daylighting control devices, automatic multi-level daylighting control devices, and multi-level astronomical time-switch controls (§119).
- Correct language to reflect intent in providing credits for superior daylighting control devices. §131(c), §146(b)4D, Table 146-B.



Lighting Controls Acceptance

- All lighting controls shall be certified as meeting the ACM NJ-2005 Acceptance Requirements for Code Compliance.
- A Certificate of Acceptance shall be submitted to the building department that:
 - Certifies that plans, specifications, installation certificates, and operating and maintenance information meet the requirements of Part 6.
 - Certifies that automatic daylighting controls meet the requirements of Section 119(e) through Section 119 (g).
 - Certifies that lighting controls meet the requirements of Section 131(a) through Section 131 (c) and Sections 131 (e) and (f).
 - Certifies that automatic lighting controls and occupant-sensing devices meet the requirements of Section 119 (c) and 131 (d).

No changes since the November 2002 draft.



Outdoor Lighting Measures

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Summary of Outdoor Lighting Changes

- Defines outdoor lighting zones.
- Adds outdoor lighting definitions.
- Requires cutoff luminaires in some applications for 175W and larger lamps.
- Specifies lighting power allowances for:
 - Hardscape areas including parking lots.
 - Landscape and ornamental lighting.
 - Building entrances.
 - Canopies.
 - Outdoor sales areas.
 - Building facades.
 - Driveways, pathways, etc.
 - Outdoor signs, both external and internal illuminated.



Unconditioned Buildings

- Proponent: CEC
 - Workshop: June 18
 - Standard: NR Lighting
- The scope has been revised so that the lighting requirements apply to unconditioned buildings. Parking garages have been added.

No changes since the November 2002 draft.



Outdoor Building Grounds Lighting

- Proponent: CEC
- Workshop: June 18
- Standard: NR Lighting

- Addressed pathways and walkways, landscape lighting.

Changes since the November 2002 Draft:

- Building grounds lighting reorganized into two categories: Hardscape and Landscape and Ornamental Lighting with new LPD allotments. Hardscape is any paved surface, such as driveways, walkways, etc., and includes parking lots.
- Landscape and ornamental covers lighting types not otherwise covered by the Standards and is an allotment based on the area of the whole lot, discontinuing the previous “area of influence” approach.

Outdoor Building Entrance and Entrance Canopies

- Proponent: CEC
 - Workshop: June 18
 - Standard: NR Lighting
- Identifies calculation method for lighting power allowances.

Changes since the November 2002 draft:

- LPD for LZ1 for building entrances (without canopy) reduced.
- Building Entrance Canopies now use “Non-sales Canopies” allotments.



Outdoor Building Facades

- Proponent: CEC
 - Workshop: June 18
 - Standard: NR Lighting
- Identifies calculation method for lighting power allowances.

Changes since the November 2002 draft:

- “Area of Influence” approach dropped and replaced with allotments for the areas of the façade that are illuminated without obstruction or interference.



Outdoor Canopies

- Proponent: CEC
 - Workshop: June 18
 - Standard: NR Lighting
- Identifies calculation method for lighting power allowances.

Changes since the November 2002 Draft:

- Merged service station lighting power allowances for with and without canopies into one category, Retail Gas and Vehicle Service Station Canopies.



Internally and Externally Illuminated Signs

- Proponent: CEC
- Workshop: June 18
- Standard: NR Lighting

Changes since the November 2002 Draft:

- Increased power allowances for internally illuminated signs.
- Changed to not allow internally illuminated signs in Lighting Zone 1.
- For double-sided internally illuminated signs, only one side is used to calculate allowance.
- No change for externally illuminated signs.



Outdoor Public Right-of-Way Lighting

- Proponent: CEC
 - Workshop: June 18
 - Standard: NR Lighting
- Not included in Title 24.
 - Planning a future model standard.

